Before the

Federal Communications Commission

Washington, D.C. 20554

In the Matter of	)	
	)	
Establishing the Digital Opportunity Data Collection	)	WC Docket No. 19-195
	)	
	)	
Modernizing the FCC Form 477 Data Program	)	WC Docket No. 11-10
	)	
	)	

COMMENTS OF CONNECTED NATION, INC.

I. INTRODUCTION

Connected Nation strongly supports the Commission's action in creating the Digital Opportunity Data Collection[1] (hereinafter, "DODC") to dramatically improve the accuracy, granularity, and reliability of the data it collects on broadband availability nationwide. We also commend the Commission for taking the time to ensure that this new data collection functions as it is intended by seeking comment on a myriad of important related topics in its *Second Further Notice.* We believe that the Commission's actions will finally yield broadband data and maps that, for the first time, will enable the precise identification of unserved and underserved areas across the United States—ultimately enabling better public policymaking, as well as the more effective targeting of federal, state, and local funding to close all remaining coverage gaps. We urge the Commission to implement the DODC as quickly and efficiently as possible so that we and other likeminded organizations, service providers, trade associations, and state and local

[1] *Establishing the Digital Opportunity Data Collection*, *et al*., WC Docket No. 19-195, *et al*., Report and Order and Second Further Notice of Proposed Rulemaking, FCC 19-79 (rel. Aug. 6, 2019) ("*Report and Order*" or "*Second Further Notice*")

government agencies can work together to close the Digital Divide once and for all—and keep it closed as technology advances. We appreciate the opportunity to submit the following comments for the Commission's consideration.

II. ADDITIONAL TECHNICAL STANDARDS FOR FIXED BROADBAND REPORTING

The Commission should define flexible but limited technical standards for each technology type. Throughout Connected Nation's 15-year history of mapping broadband availability at the state level, we have worked with more than 1,200 unique service providers to understand their network capabilities and precisely reflect their coverage footprints on public-facing GIS maps. Because no two service providers are identical (in terms of technology, network topology, customer service policies, GIS expertise, etc.), we have often been required to "meet them where they are"—adapting our data requests to their individual capabilities, while not sacrificing the accuracy and granularity of our maps. While sometimes messy, this iterative process has taught us that service providers—even today—have varying degrees of capability with regard to their ability to report out. Therefore, we urge the Commission to take the following actions with regard to establishing technical standards for the creation of coverage polygons, as requested in the *Second Further Notice*[2]:

1) Focus on the outcome of identifying locations that are capable of receiving the delivery of service within 10 days of request. Since service providers will justifiably be held accountable for the accuracy of the information they report, this fact alone will force great attention to detail and internal scrutiny of the coverage polygons that will be generated for submission to USAC.

[2] *Id*., ¶¶ 78-84

2) With the above outcome in mind, reverse engineer a limited set of standards for polygon generation for each service delivery technology type (fixed wireless, coaxial cable, DSL, fiber to the premises, etc.)—a metaphorical "funnel" for each technology type that provides limited flexibility on the techniques that can be used to generate location-specific coverage polygons. The funnels need not be open-ended or ill-defined; rather, they should provide just enough flexibility to account for the individuality of providers while still yielding location-specific polygons of service availability.
3) Create the "Broadband Serviceable Location Fabric" ("Fabric") as soon as possible. We believe the creation of a common dataset of locations nationwide—on which broadband service availability polygons can be overlaid—will aid service providers in scrutinizing their own polygons prior to submission. The creation of such a dataset is important because its purpose is to accurately geolocate structures (or other locations that warrant service delivery, such as cropland for precision agriculture) so that it can be determined if a given location falls inside or outside the boundaries of a given service availability polygon—eliminating potential ambiguity.
4) Ensure that each "serviceable location" (i.e., the specific latitude and longitude of an identified location that warrants service delivery) on the Fabric has a unique identifier (such as an ID number), as well as a corresponding physical street/road address. This will allow service providers in the future an option to report serviceability by location ID or street address if they prefer—from which a coverage polygon could be auto-generated.

5) Create a small technical advisory group, either formally or informally, of GIS experts to advise the Commission on the continual refinement of the standards for each service delivery type. The standards will likely need to evolve as technology evolves, as the Fabric is more widely adopted as an informative underlying dataset on precise locations, and as service providers react to lessons learned from the ongoing implementation of the DODC. Connected Nation stands ready to support the Commission in this capacity if needed.

The Commission should take further action to provide reporting assistance to small service providers. Perhaps most importantly, we believe the Commission should take further action to provide reporting assistance to small service providers. As stated in our July 2019 *ex parte* letter[3], we believe a significant number of small service providers will struggle to comply with the reporting requirements as laid out in the DODC, absent some mechanism that would provide them with assistance in the generation of accurate, granular coverage polygons of their networks' service delivery capabilities. In states like Kansas, where we unveiled a new granular state broadband map in July, more than 50% of providers required some level of GIS processing assistance to comply with our data collection requests.

Many providers, particularly small cable and fixed wireless companies, do not have the internal GIS expertise or software to create granular and accurate coverage polygons without assistance, regardless of how well the technical standards for polygon creation are defined. While it is true that several online resources exist that can help providers create depictions of

[3] *See* Letter from Brent Legg, Vice President, Government Affairs, Connected Nation, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 11-10, 19-195, at 3 (filed July 25, 2019).

their service availability, the best resources carry a cost and require both time and technical acumen to utilize.

Certainly, some service providers can afford to outsource such work to qualified third-party consultants—particularly those that receive a subsidy to provide service. But a significant number would face a burden in both time and financial resources to comply with the Commission's requirements in the *Report and Order.*

Therefore, while we commend the Commission's direction to USAC[4] to provide helpdesk support to providers that request assistance—which we interpret to mean providing guidance on DODC program rules or navigating the data collection portal—we do not believe this goes far enough. We believe actual GIS processing assistance (i.e., the creation of polygonal depictions of service availability in compliance with DODC rules) should be made available to providers under a certain size—perhaps those with fewer than 20,000 connections—as a means of ensuring the accuracy of small provider reporting and to minimize the burden on providers with limited financial resources and personnel.

We believe the alternative—i.e., implementing the DODC without such a safety net—would result in a much higher degree of unintentional provider misreporting (both overstatement and understatement), and a much less accurate National Broadband Map overall. Increased levels of overstatement, in particular, will keep some areas that are truly unserved (but represented as being served on the map) from having access to funding support that would otherwise be made available to them. This is unacceptable, and preventative measures must be taken to ensure that this happens in as few areas as possible—otherwise, the whole objective of creating DODC in the first place is put at risk. Limiting eligibility to providers with fewer than

[4] *Id*., ¶¶ 57

20,000 connections would also sufficiently control the cost of such an assistance program and ensure support is only made available to the providers that are most likely to need it.

The Commission should collect data on network latency. Latency is an extremely important measure of network performance—particularly with regard to two-way video, augmented reality, and a myriad of IoT applications, and therefore should be an element of DODC reporting at some point in the future. Because measuring latency on a user-by-user basis is incredibly complex, we suggest initially collecting data on latency in the aggregate across the residential connections of a given service provider—for example, measuring the average latency of all residential connections between the modem and the Internet Exchange Point at which the service provider peers with other networks.

The Commission should penalize filers that intentionally or chronically misreport. Given the fact that billions of dollars of funding to support the build-out of broadband will be expended via the Universal Service Fund and other federal programs based on the data reported under the DODC, we believe there should be a tiered penalty structure for demonstrated intentional misreporting and chronic misreporting. The national broadband map that results from the DODC will only be as valuable as the data it reflects, and intentional or chronic misreporting will have a negative impact on everyone. Therefore, we believe the Commission should implement a robust system of desktop and in-field data validation to, among other reasons, identify and demonstrate where intentional or chronic misreporting is occurring.

III. USE OF CROWDSOURCING

The Commission should track consumer feedback in the aggregate and implement a bulk challenge process for qualified entities. We believe the use of crowdsourcing (i.e., the collection of public and provider feedback on the accuracy of the data collected under the

DODC) should be tracked in the aggregate, for the purpose of identifying areas on the resulting maps that warrant further refinement or investigation. Areas that show a high number of unique complaints are areas where some level of overstatement or understatement is likely occurring. We believe it would be unreasonable and impractical for service providers to be required to respond to every complaint that is filed, but that such data over time—especially when combined with third-party commercially crowdsourced datasets—can be an invaluable in helping the Commission, USAC, Congress, and the service providers themselves understand where the data and derived coverage maps are likely in need of further refinement.

With that said, we do believe that state, local, and tribal governments, qualified non-profit organizations, and other entities that are granted special permission by the Commission should be permitted to provide evidence in bulk filings that "challenge" the accuracy of the map—in a fashion not dissimilar from the Commission's *Mobility Fund Phase II Challenge Process*. We believe that service providers should be required to respond to qualified bulk challenges in a reasonable period of time (e.g., within three months), and that disputed areas should be subject to Commission-sponsored field validation, while undisputed challenges should be corrected on a provider's next filing.

The Commission should make crowdsourced feedback data and bulk challenges publicly available. To ensure a high degree of transparency in the DODC process, we believe that all crowdsourced feedback and bulk challenge data should be made publicly available once the datasets have been stripped of any personally-identifiable information.

The Commission should implement a mechanism for in-field validation. The existence of a crowd-sourced public feedback/challenge process necessitates the creation of a structured and professional field validation process to help the Commission and USAC adjudicate disputes,

force corrections to submitted data where necessary, and investigate instances of intentional or chronic misreporting. Such a mechanism does not currently exist, and yet it is key to the continual evolution and refinement of the DODC and national broadband map. We believe the Commission should therefore implement such a mechanism at the outset of the DODC's implementation that can be deployed as necessary to collect and provide unbiased, empirical evidence so that disputes can be resolved in a timely manner.

The Commission should implement a cyclical, scheduled public feedback/challenge process. We believe all aspects of the DODC would benefit significantly from the institution of a predictable, routine, repeatable public feedback/challenge process in which there are defined windows for receiving feedback, analyzing and validating feedback, and updating the map after feedback has been resolved. An open-ended process, in which feedback or challenges can be submitted at any time, and in which the status and resolution of pending disputes is ambiguous at best, seems like a recipe for chaos—as well as constant skepticism on the accuracy of the map at any given time. We believe that every stakeholder—from FCC and congressional staff, to service providers, to the public at-large—deserves a predictable process in which each step of the cycle has a defined beginning and end. We also believe that a defined calendar would benefit agencies such as USDA, which may wish to tie its grant and loan decision-making schedule to the DODC cycle.

IV. INCORPORATING LOCATION INFORMATION INTO THE DIGITAL OPPORTUNITY DATA COLLECTION

Connected Nation continues to believe in the value of common dataset of locations nationwide (called a "Broadband Serviceable Location Fabric" by the coalition led by USTelecom), on which broadband service availability polygons can be overlaid. The creation of

such a dataset is important because its purpose is to accurately geolocate structures (or other locations that warrant service delivery, such as cropland for precision agriculture) so that it can be determined if a location falls inside or outside the boundaries of a given service availability polygon. If the primary purpose of the DODC is to guide USF funding—and potentially broadband grant funding from other federal agencies—then the precise location of qualifying structures needs to be identified. We commend USTelecom and its partners for piloting the creation of a Fabric dataset in the states of Missouri and Virginia, and we look forward to its implementation nationwide.

The Fabric should be open-source and available in its entirety for use by other federal agencies and the public at-large. Given the cost of the creation of the Fabric, the role of taxpayer and/or ratepayer funding in paying for it, its role in underpinning the accuracy of the DODC, and its utility for use in other governmental applications such as E-911, we strongly believe that the Fabric and its underlying integrated geodatabases should be made available to the public and other federal agencies without charge. We acknowledge that this will likely result in a more significant initial cost to fund its creation, but the long-term benefits of such transparency make it a worthy investment. We also believe that the open-source disposition of the Fabric will allow for greater scrutiny and refinement over time, and that the Fabric itself should be subjected to the public feedback/challenge process as described above.

V. CONCLUSION

We appreciate the opportunity to provide comments on this proceeding and we invite further dialogue on this matter as we work to close the Digital Divide across the United States – because we believe everyone belongs in a Connected Nation.

Respectfully submitted,

/s/ *Brent Legg*

Brent Legg
Vice President, Government Affairs
Connected Nation, Inc.
blegg@connectednation.org
(202) 340-6446

September 23, 2019